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FEDERAL RESERVE BANK OF BOSTON

South Station
591
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SCHEMATIC DESIGN REPORT
FEBRUARY 1971

HUGH STUBBINS AND ASSOCIATES
ARCHITECTS/PLANNERS
1033 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS

FEDERAL RESERVE BANK OF BOSTON

HUGH STUBBINS AND ASSOCIATES
ARCHITECTS, 1033 MASSACHUSETTS AVENUE, CAMBRIDGE, MASSACHUSETTS 02138 TELEPHONE (617) 491-6450

HUGH STUBBINS, FAIA

MERLE WESTLAKE, AIA
EDWIN F. JONES, RA
PETER WOYTUK, AIA

NORMAN I. PATERSON, AIA
TETSUO TAKAYANAGI, AIA
JOHN LEE WACKER, ASLA

STEVEN S.T. LO, RA
PAUL JOHN GRAYSON, AIA
JOHN REUTLINGER, AIA
W. EASLEY HAMNER, AIA
AMIEL VASSILOVSKI, RA
JULIUS LOEWY, RA
ROBERT A. PALERMO, RA
SEBASTIAN L. LaBELLA, RA

EMMETT F. GLYNN, CSI

February 19, 1971

Mr. Frank Morris
President
Federal Reserve Bank of Boston
30 Pearl Street
Boston, Massachusetts 02110

Dear Mr. Morris:

We are pleased to submit the Schematic Design Phase of the Federal Reserve Bank of Boston.

This plan is the result of many months of cooperative study by your staff and ours, together with the engineers and consultants. The concept provides for your current needs as well as allowing for flexibility of change and future growth. We feel the design is a realistic interpretation of the program, and one which will enhance the City's future development.

With best regards,

Hugh Stubbins

hs/u

FEDERAL RESERVE BANK OF BOSTON

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Earle O. Latham, First Vice President
Daniel Aquilino, Senior Vice President
D. Harry Angney, Senior Vice President
Norman T. Byrnes, Senior Vice President
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Director of Research

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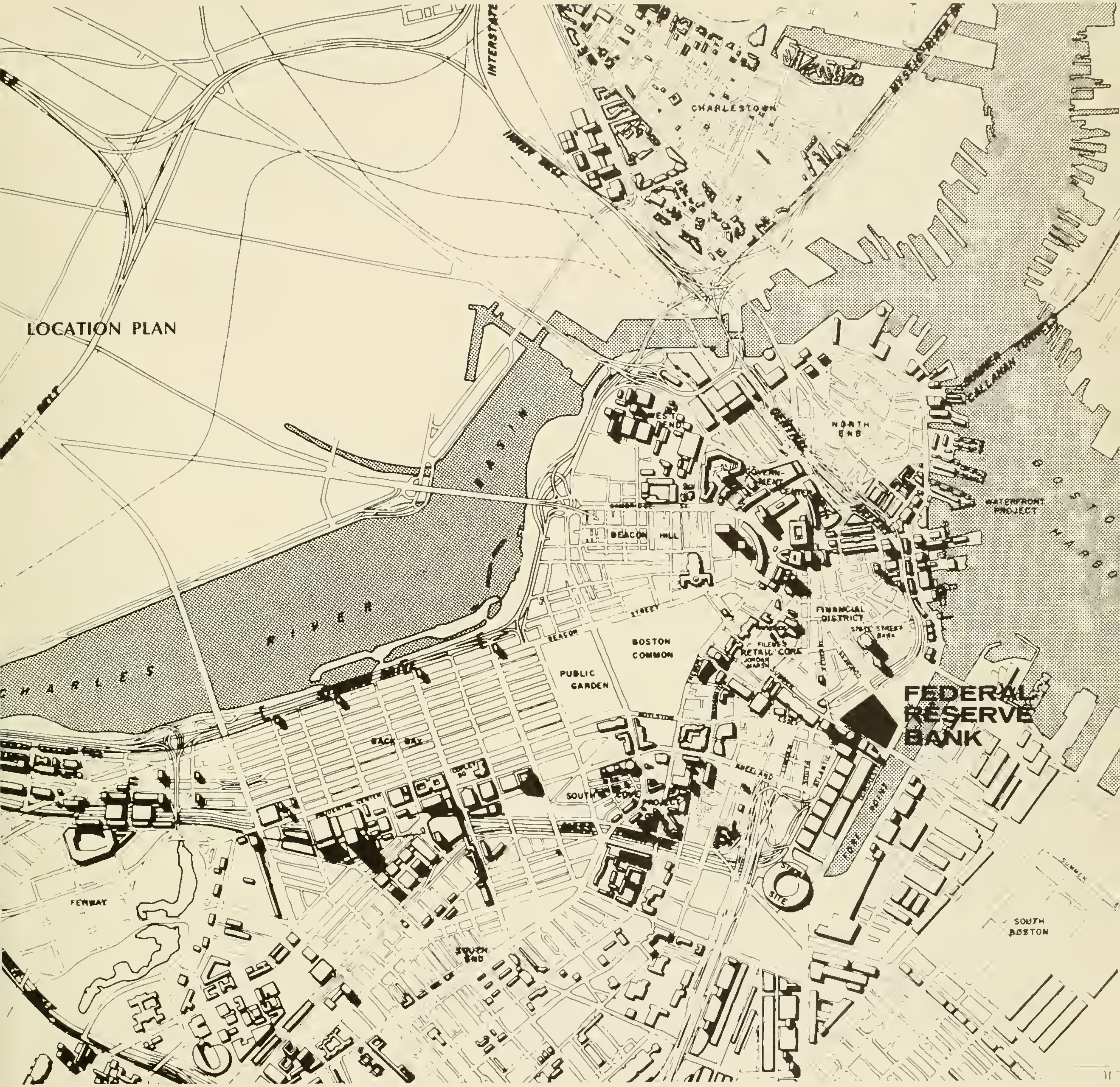
ARCHITECTS	Hugh Stubbins	Principal Architect & Designer
	Eugene R. Racek	Project Director
	Peter F. McLaughlin	Affiliated Project Designer
	Lloyd E. Kleypas	Designer
	Bailey Silbert	Designer
	Peter J. Scott	Designer
CONSULTANTS	Becker and Becker New York City	Programmers
	LeMessurier Associates Cambridge, Massachusetts	Structural
	Jaros, Baum & Bolles New York City	Mechanical Electrical Vertical Transportation
	Golder Gass Cambridge, Massachusetts	Soils Investigation
	William Crocker Boston, Massachusetts	Site Survey


LOCATION PLAN

FEDERAL RESERVE BANK

EXISTING SITE

The proposed building site of approximately 5.7 acres is bounded by Atlantic Avenue and Dorchester Avenue, Congress and Summer Streets, in the South Station area. It is conveniently located to the financial and commercial districts, public transportation, and is one of the city's prime areas for development.

PUBLIC TRANSPORTATION

The new Federal Reserve Bank of Boston will have convenient access to public transportation. A subway entrance at the corner of Atlantic Avenue and Congress Street provides access to the MBTA. Bus service is also readily available.

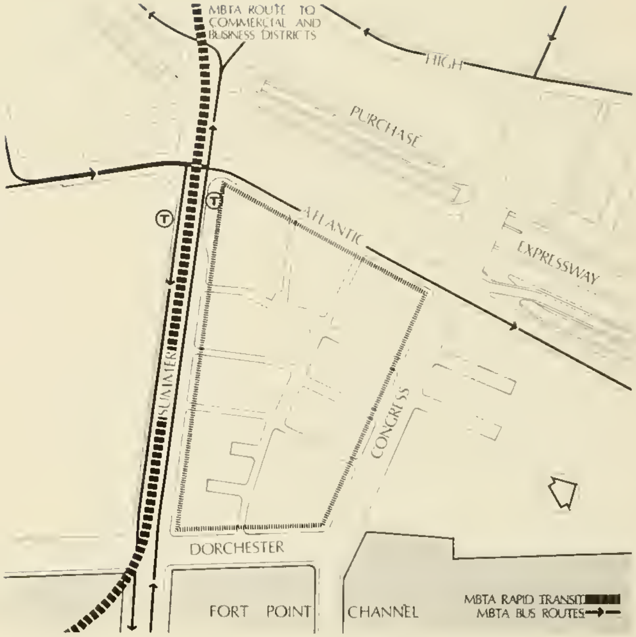
PEDESTRIAN ACCESS AND VEHICULAR CIRCULATION

All streets bordering the Bank's site have two-way traffic with the exception of Atlantic Avenue, where traffic flows east. It is not expected that this traffic pattern will change. However, two important changes are anticipated. The City plans to relocate Summer Street approximately 110 feet to the west and will abandon old Dorchester Avenue. Both changes will result in additional site area, enlarging the plaza space to the west.

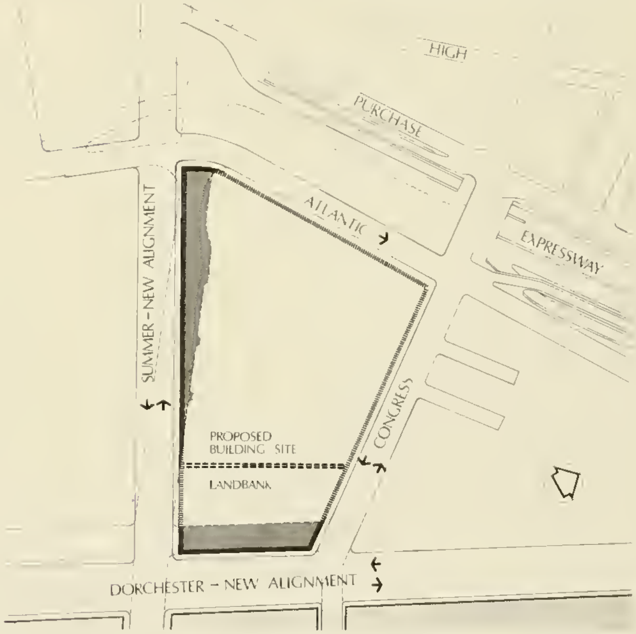
LAND BANK

Fortunately the area of the property provides additional land to accommodate future growth or another building. Initially this space may be landscaped and in part, create a "buffer zone" between the Bank and Fort Point Channel. Additional land will accrue to the Bank as the Boston Redevelopment Authority implements its plans for realignment of Summer Street and for a new Dorchester Avenue.

EXISTING SITE
PUBLIC TRANSPORTATION



VEHICULAR CIRCULATION
STREET REALIGNMENT
LAND BANK

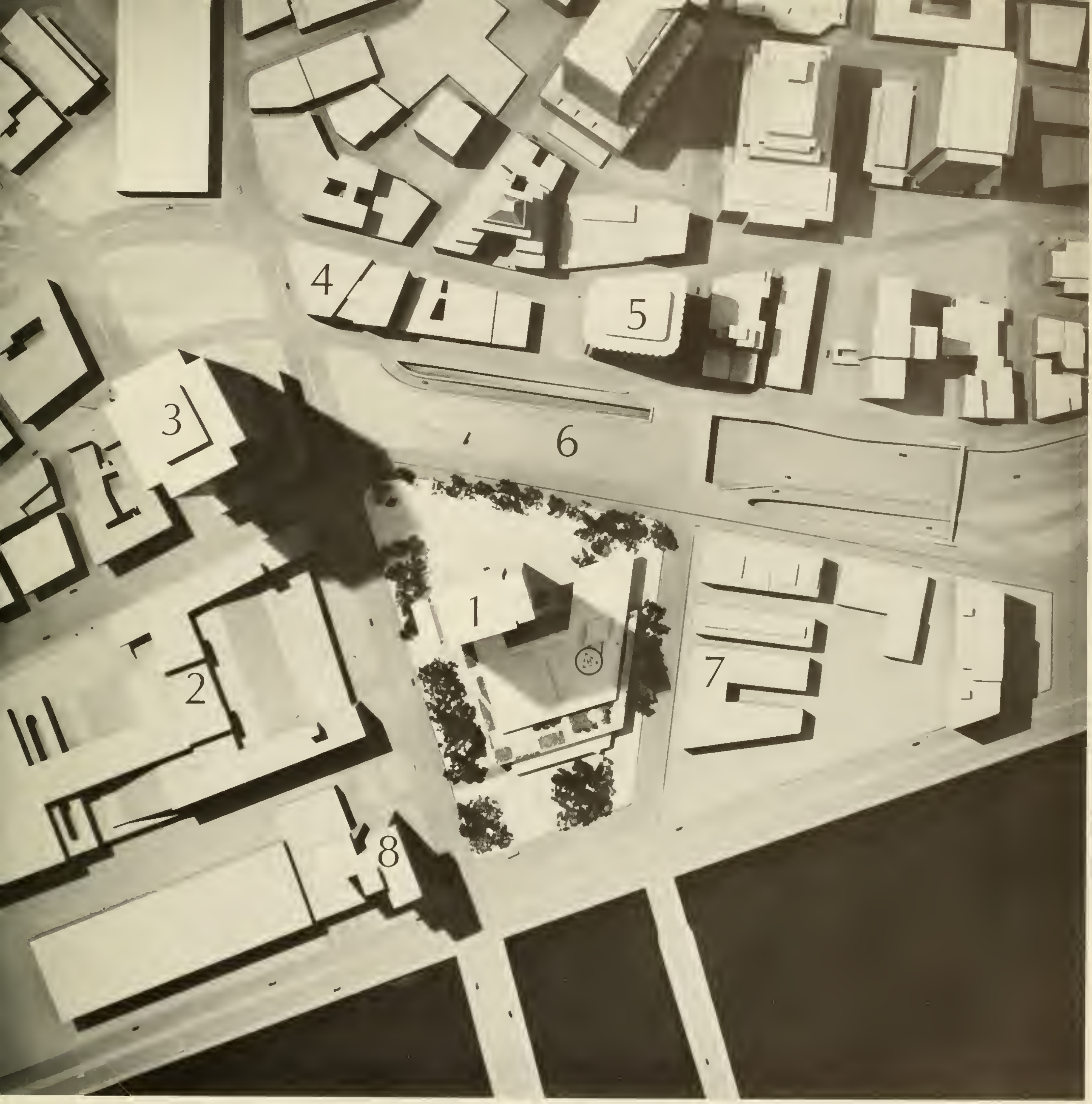


ENVIRONS

The Federal Reserve Bank of Boston will be the heart of an area revitalized by the addition of a new 60-story office tower, a 10-story office building, and a new transportation center. In addition, the Boston Redevelopment Authority plans a parking garage for approximately 5,000 cars, new pedestrian-oriented shops above the expressway, and an innovative moving sidewalk.

LEGEND

1. Federal Reserve Bank of Boston
2. Transportation Center
3. Dewey Square Office Building
4. Ten Floor Office Building
5. Keystone Building
6. Pedestrian Oriented Facility
7. Proposed Project
8. Hotel Facility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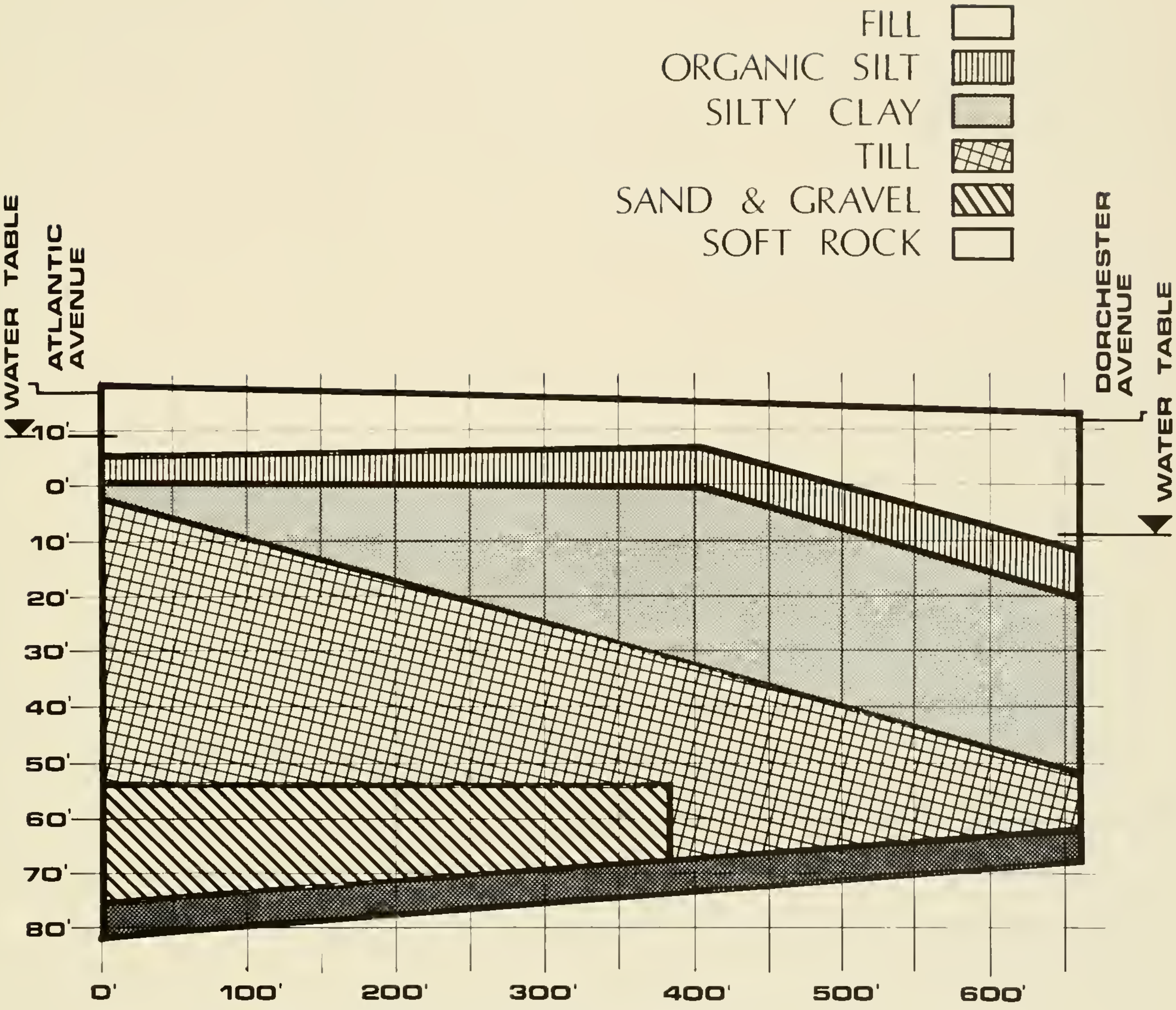
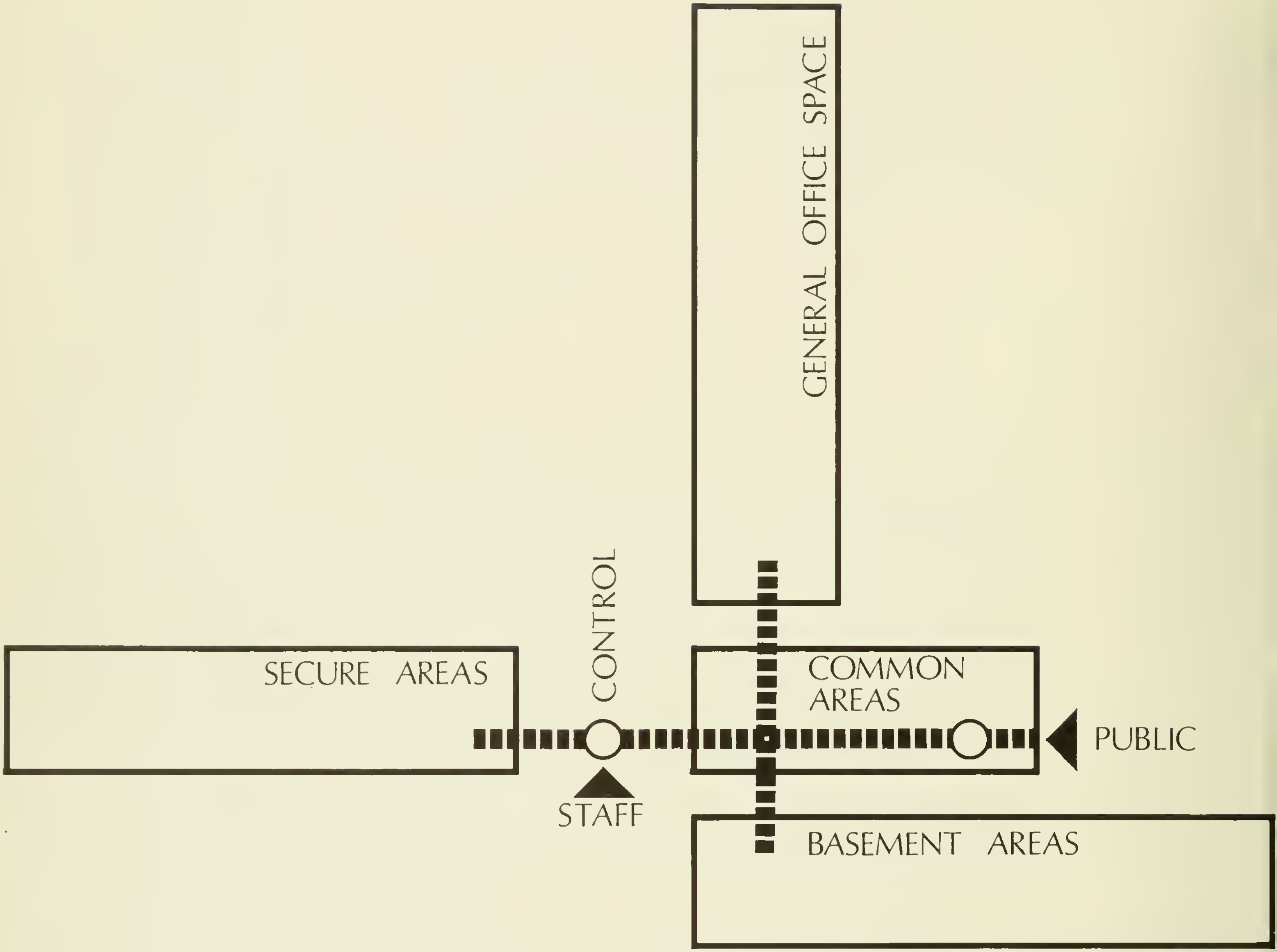
SOILS ANALYSIS

Subsoil investigation included 11 borings which revealed that the preferred location for a high-rise structure is adjacent to Atlantic Avenue. Analysis indicates the advisability of a 3-level basement which would permit direct bearing of a thick reinforced mat foundation directly on the till or hardpan base material. A tower location closer to the Channel would necessitate high capacity piles to support heavy column loads, thus incurring a premium cost.



DIAGRAMMATIC SITE SECTION



DIAGRAMMATIC SECTION

ARCHITECTURAL CONCEPT

An excellent and adequate site makes it possible to interpret the program in a logical way and to organize the Federal Reserve Bank's new building into its four natural divisions, designing each in a proper relation to the whole. These four major divisions are: 1) Secure Areas requiring large floors; 2) flexible office space including rental areas for smaller departments; 3) public entrance and common facilities for recreation, food service and public relations; 4) service areas, including parking.

These divisions have been conceived and expressed in regard to their functional requirements and arranged in such a way as to accommodate inevitable change.

The coin, currency, check and data operations are contained in large floors of about 55,000 to 60,000 square feet that can be controlled as a secure block.

The coin operation and its vault are located on the ground floor for ease of handling and distribution. The currency department, vault, and the Federal Reserve Agents' vaults are placed on the first level below grade ensuring protection as well as convenience.

Delivery access to these departments for armored vehicles is through a Security Court which is separated from the building's general delivery area. It is located at ground level allowing easy access with a traffic system using a two-door security lock to permit guards to inspect each vehicle before it passes into the Court. Within the Court a Protection Mezzanine permits complete and continuous observation.

General Office areas requiring less than maximum security are situated in a tower, where floors gross about 18,000 square feet, providing a better and more humane working environment. The tower floors are designed to give clear, open space with maximum flexibility for change and shifting of department functions. Service cores and vertical transport are placed on two end walls, thus leaving clear space in between. Columns are set back from the exterior walls allowing horizontal, mullion-free windows. The expressive quality is one of grace with strength.

The Banking department is situated on the second floor of a link which connects the secure block to the office tower. It is easily accessible by elevator or stairway, requires a minimum of staff, and commands a direct view of the principal entrance lobby.

Employee recreation facilities, library, cafeteria, kitchen, cooperative store, etc. are placed on top of the large building block convenient to workers in both the secure block and the office tower.

General Delivery and Service entrance will be found at the first basement level providing areas for delivery of mail, checks, general and restaurant supplies. A ramp under surveillance and door control provide vehicular access to this level.

The Board Room, Executive Offices and Executive Dining Rooms and Lounge are located on the top two floors with a panoramic view of Boston and the harbor.

An auditorium is provided for banking management seminars and community programs. Complete audio-visual facilities are planned. Conference rooms are located in the connecting link convenient to banking personnel and public alike. Two smaller audio-visual studios on the third floor link will serve Tour Groups. A coffee lounge adjoins the reception and registration desk at this location.

A Money Museum will be situated under tiered gallery walkways adjacent to the auditorium. A special skylight extending from a point 18 feet above the ground to the fourth floor roof provides daylight for the upper floors of the secure block.

Twelve elevators serve the office tower. They are divided into two banks and located at the two ends of the structure. Four passenger and two freight elevators serve the secure block. The passenger elevator capacity is 3500 pounds with a speed of 500 feet per minute while the freight elevators have an 8000 pound capacity and a speed of 250 feet per minute.

General office spaces are modular designed using fluorescent fixtures giving 100 foot candles at working level. Concealed air supply and returns may be located in the fixtures for interior spaces while special lighting will be utilized in lobbies, executive/dining and other special areas.

An emergency light and power system will be included to serve stair, elevator, and selective lighting as well as security and alarm systems, computer and other critical power loads.

The building will of course be completely air-conditioned and the source of heat has not yet been determined as energy studies are not complete at this time. Consideration is being given to district steam, electricity, gas, oil and waste heat from on-site electrical generators.

Cooling sources presently under consideration are steam, electric or gas driven centrifugal water chillers, absorption type chillers or a combination of these.

Parking for 240 cars includes a car wash in a total area of 95,000 square feet in the second basement level under the plaza.

The garage may serve as an emergency shelter if necessary. An adjacent room will be equipped with provisions sufficient for a limited period of time.

A helicopter landing pad located on the roof of the Security Building permits controlled access to the bank.

The Tower is being designed as a steel structure. It is an economical design as its main wind bracing is accommodated in the elevator cores at each end.

The horizontal spandrels on the facade are designed to carry the perimeter induction air supply and to protect the glass from excessive solar heat gain, thereby reducing the air conditioning load. This configuration also has a tendency to reduce the downward acceleration of wind usually associated with tall buildings.

A modular underfloor duct system will be used for power and communication systems, allowing for flexibility and change.

At present the secure block and all below grade structures are being planned as reinforced concrete. To provide maximum security, vaults will be constructed of "steelcrete."

Much thought has been given to the development of the area surrounding the site. Several discussions have taken place with the developers of adjacent properties and their architects, in a spirit of cooperation.

The building has many new features both in plan and exterior treatment that will make it a significant contribution to the City as well as an expression of its purpose, and—most of all—a pleasant and joyful environment in which employees can work.

The programming firm of Becker and Becker was engaged by Hugh Stubbins and Associates in April, 1970. In accordance with Federal Reserve Guidelines, personnel and net area projections were made for the years 1974, 1980, 1985 and 2005. Personnel projections were translated into net space requirements, and the building designed to provide for the Bank's growth needs through the year 2005. A 20% contingency factor is included in accordance with Federal Reserve Bank Guidelines.

Hugh Stubbins and Associates, in utilizing the report of Becker and Becker, has reflected the programmed requirements for a functional building complex, with particular emphasis on the flexibility demanded by constant changes in technology and administration.

NET AREA DISTRIBUTION

SPACE REQUIREMENTS	YEAR 1985	YEAR 2005	YEAR 2005 + 20% CONTINGENCY
General Office Areas (Tower)	178,228	282,650	339,050
Secure Areas	169,143	198,150	229,280
Common Facilities	54,635	54,650	56,750
Basement Areas (Nonsecure)	95,220	95,500	106,250
TOTALS	497,226	630,950	731,330

GROSS AREA DISTRIBUTION

TOWER				
14 Floors High Rise	=	18,257 s.f./floor	=	255,598 s.f.
13 Floors Low Rise	=	18,320 X 13	=	238,173
2 Mechanical Floors	=	18,404 X 2	=	36,808
2 Executive Floors	=	12,819 X 2	=	25,638
		Gross Sq. Ft. in Tower		556,217 s.f.
SECURE BLOCK				
First Basement			=	60,380
First Basement Mezzanine			=	2,700
Ground Floor			=	54,450
Ground Floor Mezzanine			=	12,470
Second Floor			=	58,500
Third Floor			=	58,500
Fourth Floor			=	44,024
		Gross Sq. Ft. in Secure Block		291,034
COMMON AREAS				
Ground Floor			=	32,300
Second Floor			=	13,050
Third Floor			=	25,150
Fourth Floor			=	19,060
		Gross Sq. Ft. in Common Areas		89,560
BASEMENT AREAS				
First Basement			=	90,117
Second Basement Parking Level			=	95,787
Third Basement			=	101,500
		Gross Sq. Ft. in Basement Areas		287,404
TOTAL APPROXIMATE GROSS AREA			=	1,224,215 s.f.
TOTAL WITHOUT PARKING AREA			=	1,128,428 s.f.

DISTRIBUTION OF PROGRAMMED SPACES

GENERAL OFFICE SPACE (TOWER)

- Accounting
- Auditing
- Bank Examination
- Discount/Credit
- Executive
- Fiscal
- Legal
- Personnel
- Planning/Project Analysis
- Public Services (Except Printing)
- Purchasing
- Regulations G.T.U.Z.
- Research
- Board of Directors' Facilities
- Emergency Program
- Research Library
- Federal Reserve Employees' Credit Union
- Medical
- Telephone Control
- Banking Services
- Data Administration
- Data Planning
- Remittance/Adjustment
- Filing (Uncurrent Only)
- Board of Examiners
- Boston Clearing House
- Coffee Areas
- Duplicating
- Employee Lockers
- Non-Cash Collection
- Shared Conference
- Building Administration

SECURE AREAS

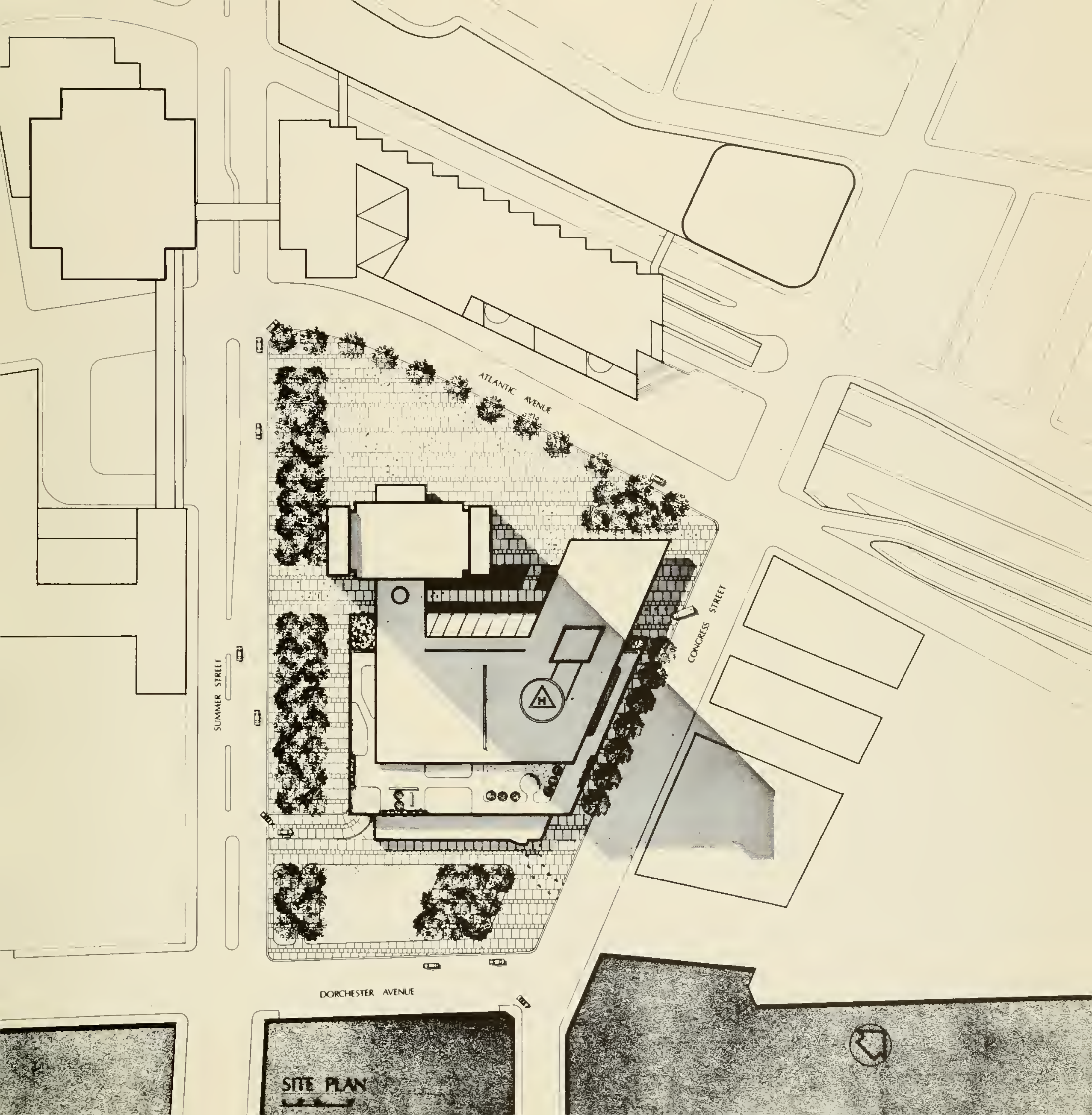
- Data Operations
- High Speed Check Handling
- Administration/Low Speed Check Handling
- Check Receiving
- Currency
- Currency Vault
- Coin/Currency Administration
- Coin
- Coin Vault
- Federal Reserve Agent
- Federal Reserve Vault
- Fiscal, Securities Division
- Security Receiving
- Registered Mail/Post Office
- Coffee Areas
- Duplicating (Xeroxing)
- Employee Lockers
- Shared Conference Rooms
- Protection Department
- Safekeeping/Custody
- Safekeeping/Records

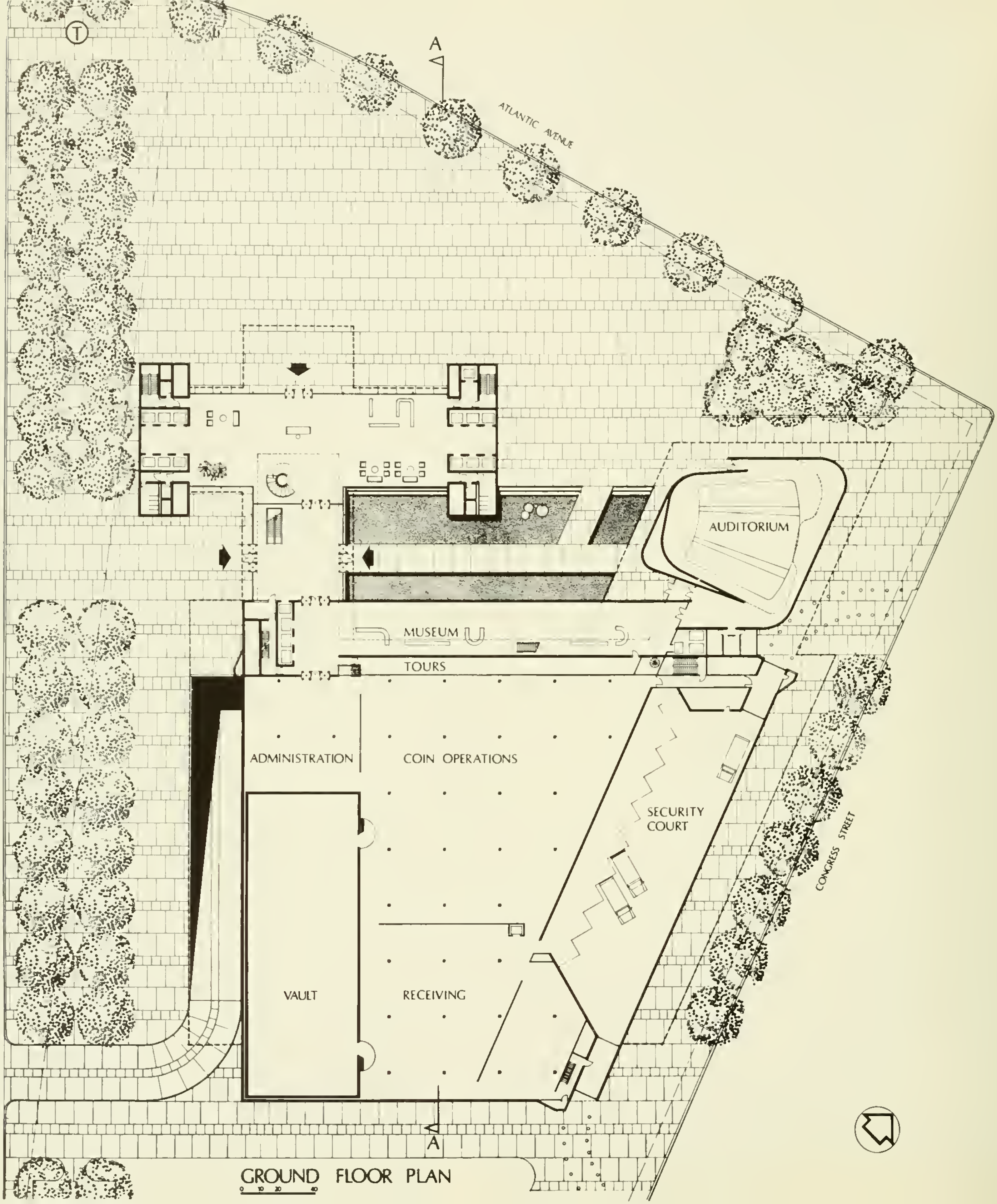
COMMON AREAS

- Lobby
- Staff Entrance & Security Control
- Tour Group Facilities
- Employee Lounges
- Cafeteria
- Recreation Areas
- Auditorium
- Audio-Visual Studios
- Money Museum
- Public Banking Space
- Child Day Care Center
- Trading Post
- Lending Library

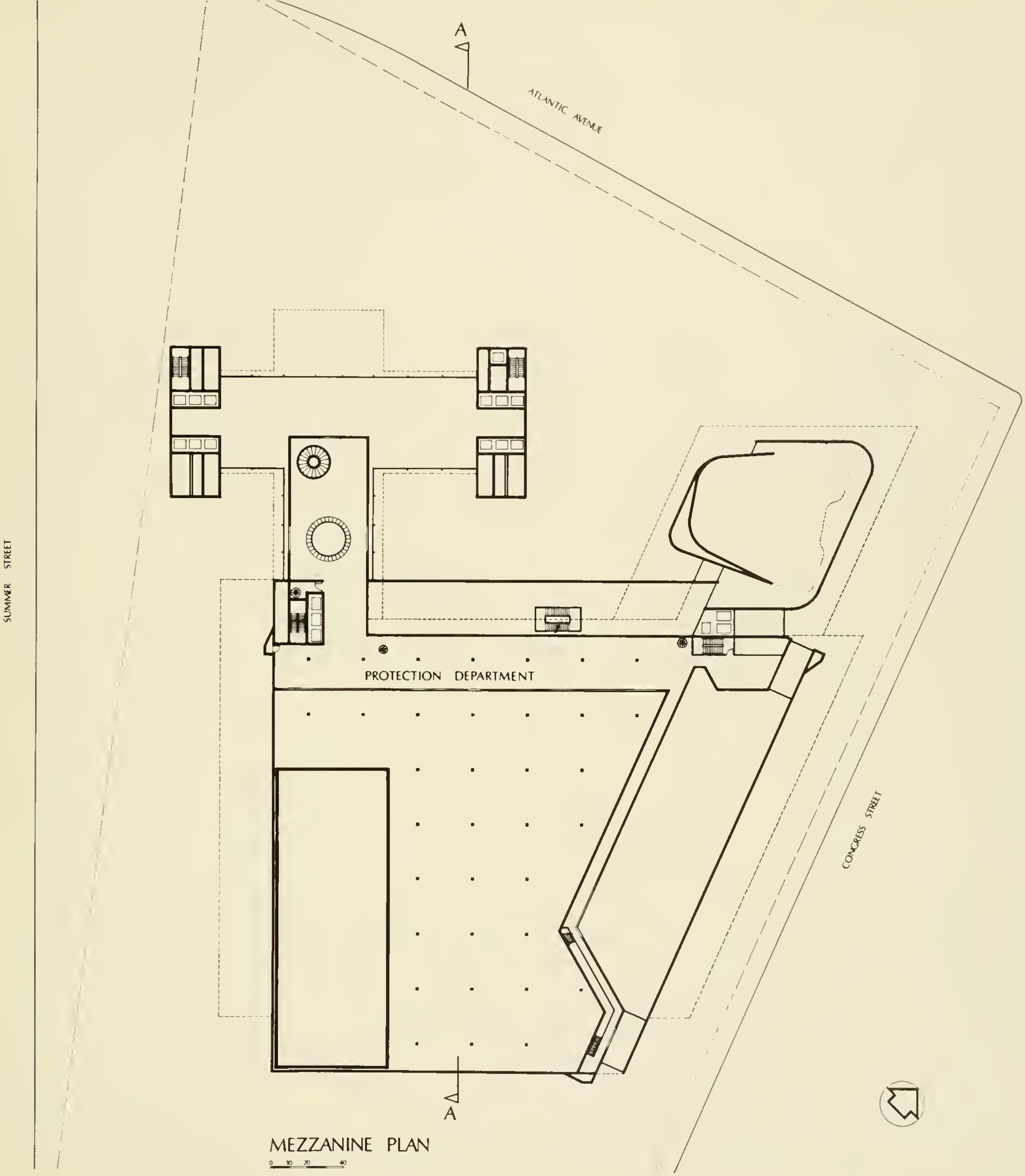
FIRST BASEMENT	Building Service Dock
	Shipping and Receiving
	Central Supply
	Mail and Check Dock
	Central Mail
	Paper Disposal
	Printing
	(From Public Service Dept.)
	Mechanical
	Kitchen Receiving
	Exit to MBTA Station
SECOND BASEMENT	Parking
	Mechanical
THIRD BASEMENT	Mechanical
	Filing
	Tenant Storage
	Building Maintenance

SCHEMATIC DRAWINGS

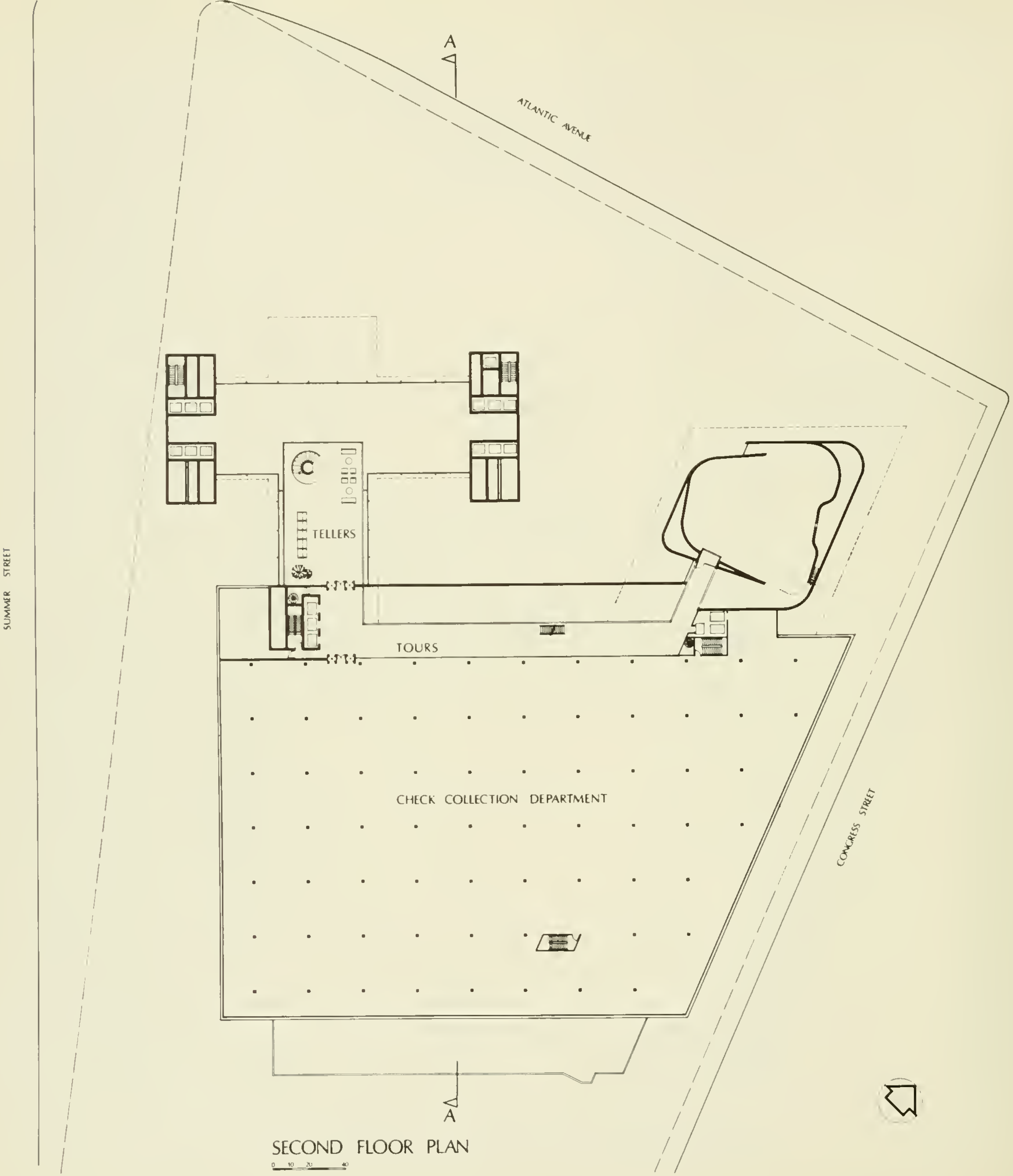

ATLANTIC AVENUE
SUMMER STREET
CONGRESS STREET
DORCHESTER AVENUE
H
SITE PLAN



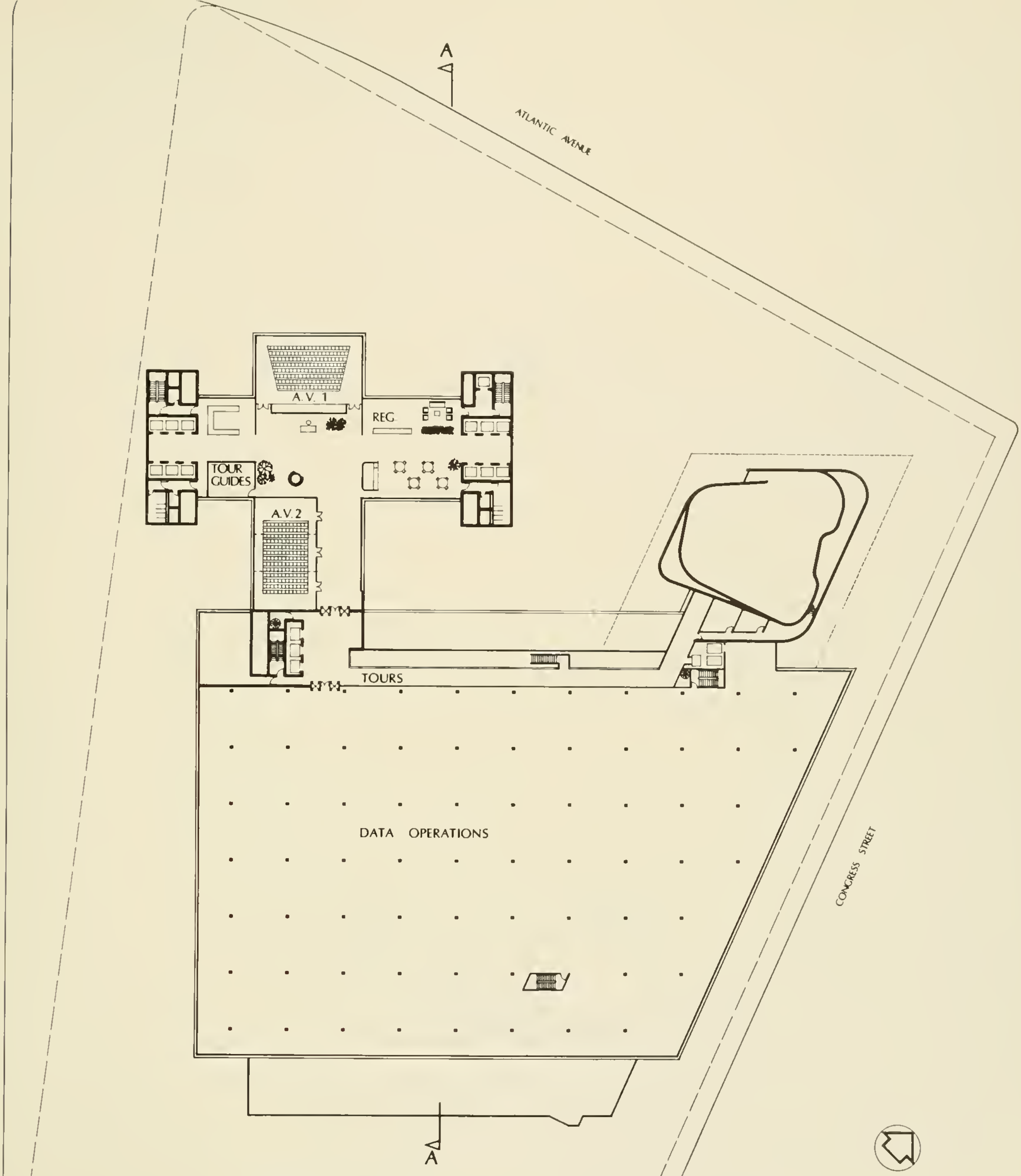
GROUND FLOOR PLAN



MEZZANINE PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

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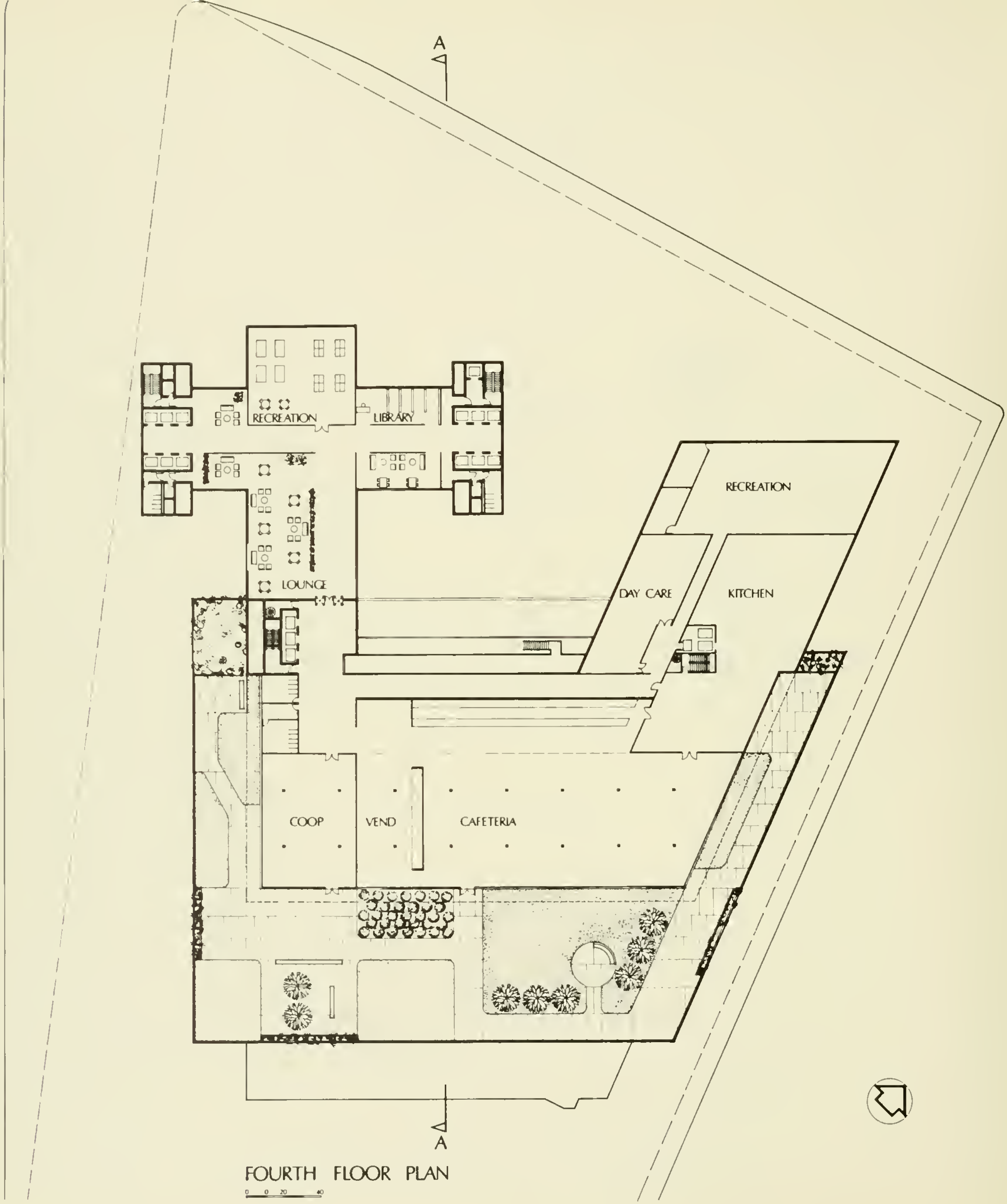
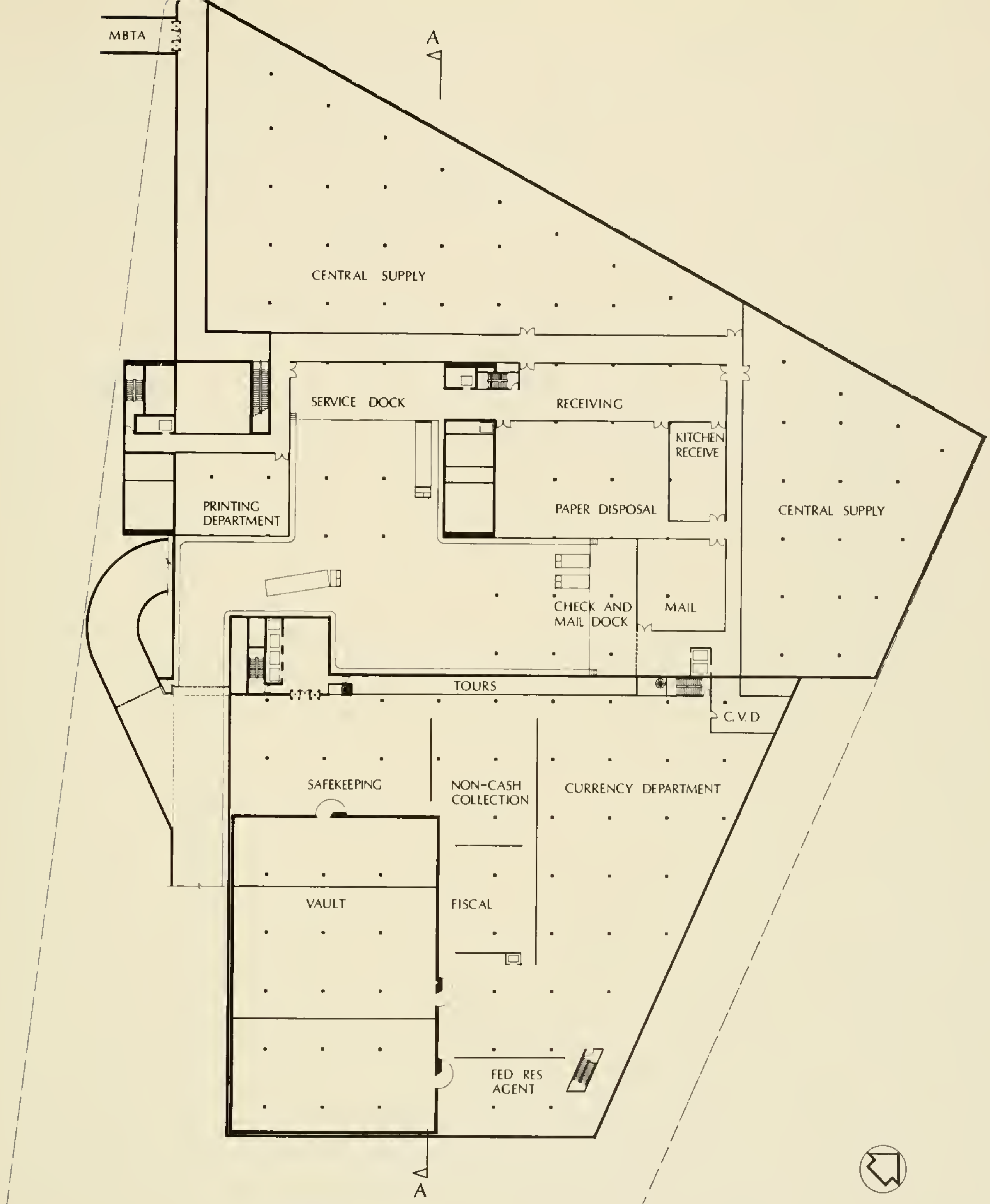
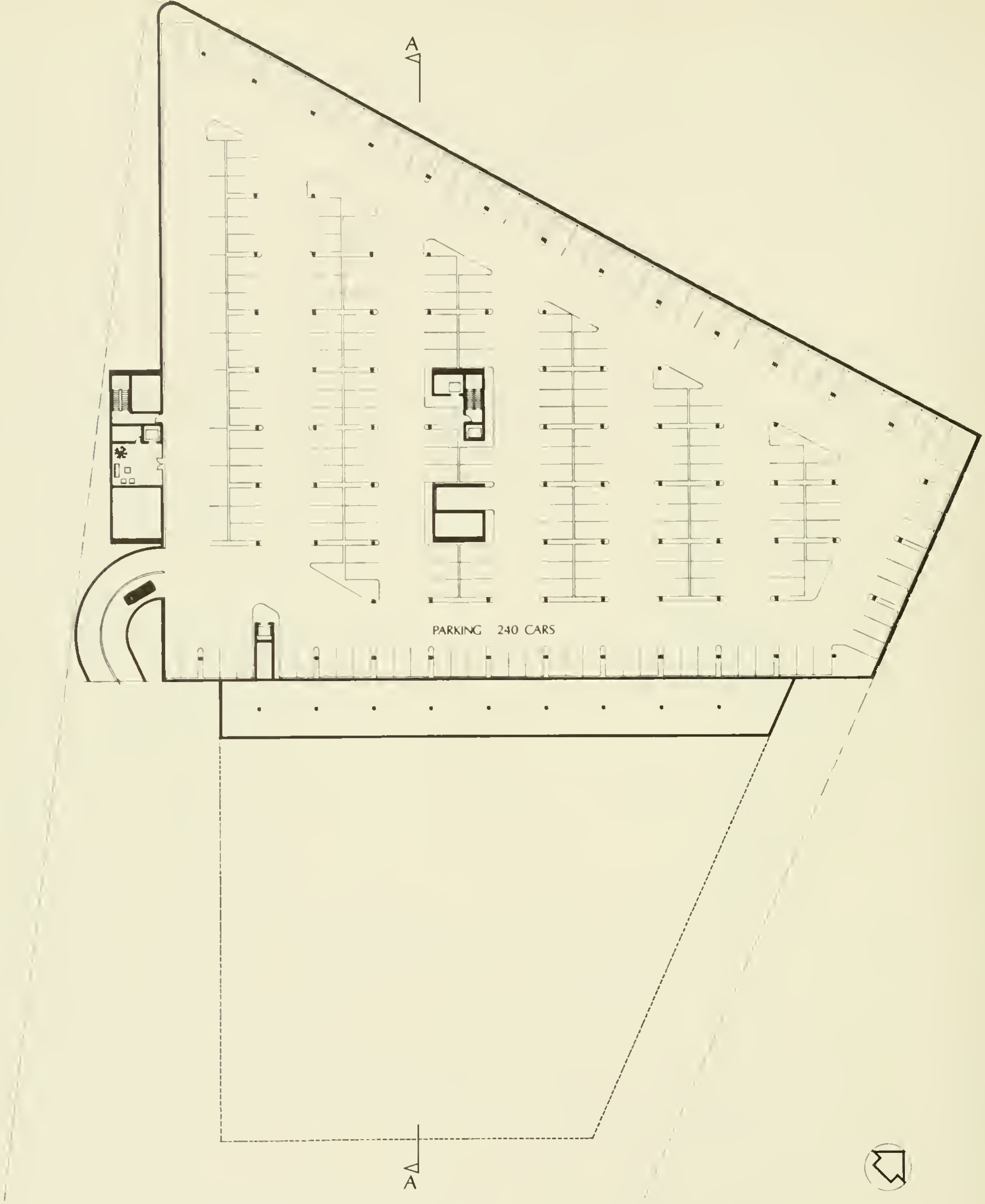


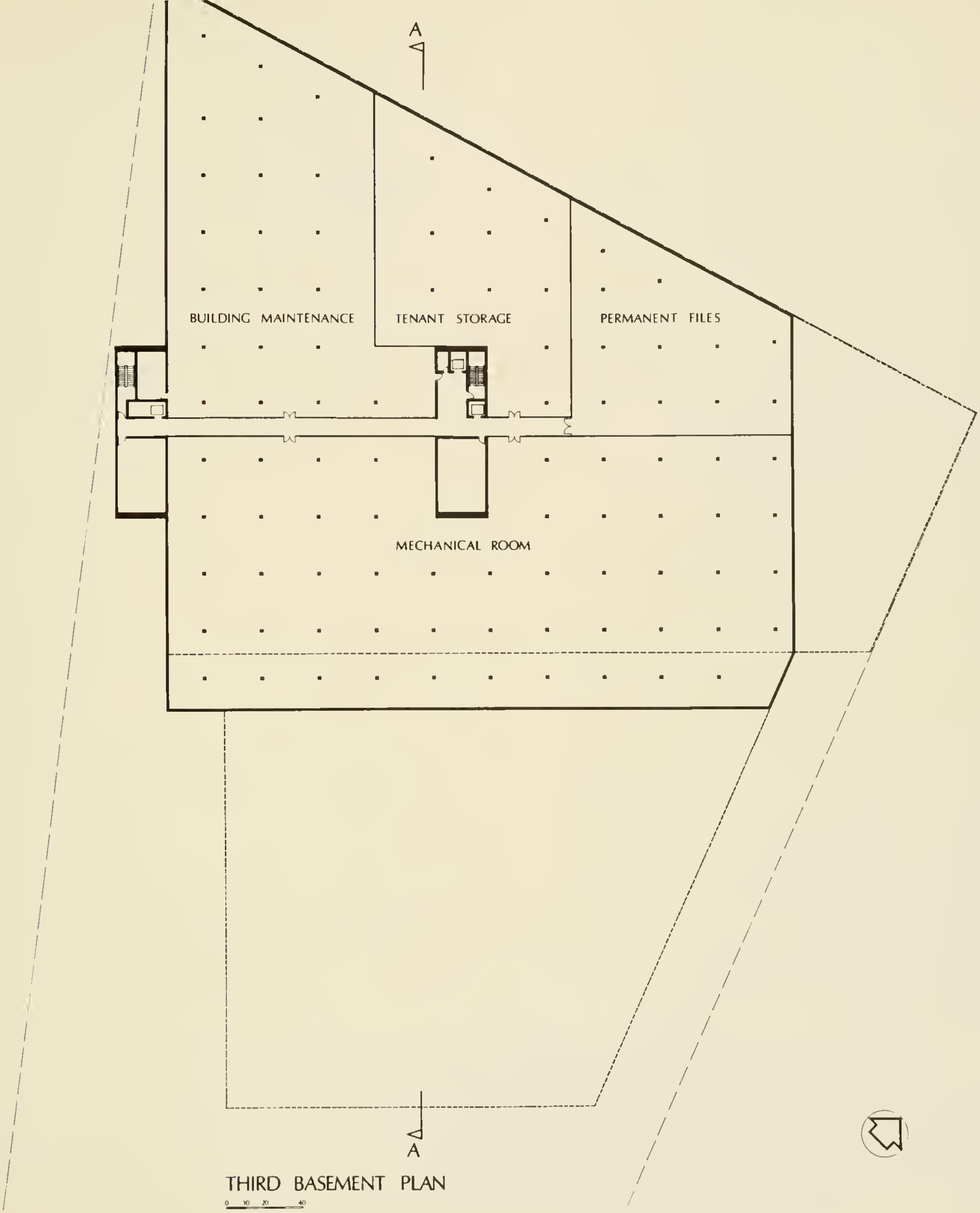
FOURTH FLOOR PLAN



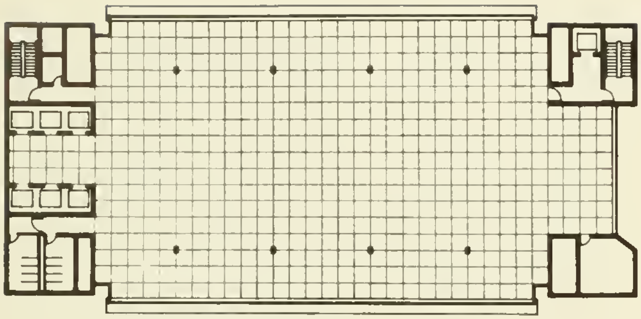
FIRST BASEMENT PLAN



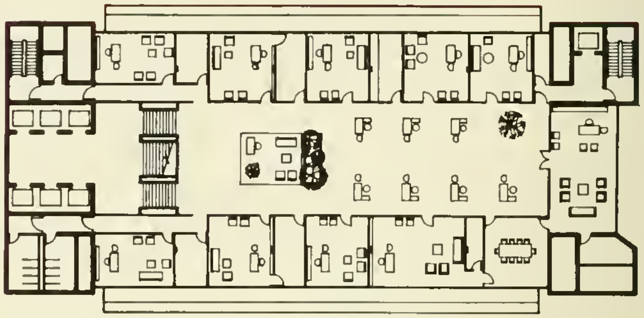
SECOND BASEMENT PLAN



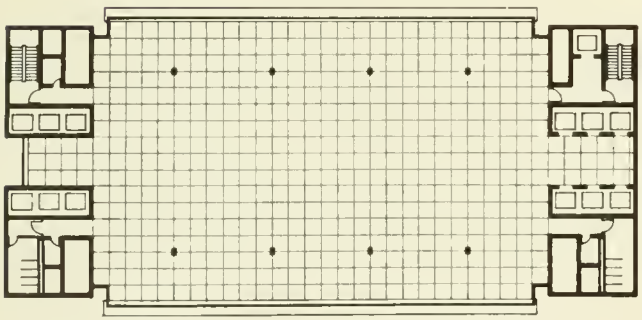
THIRD BASEMENT PLAN



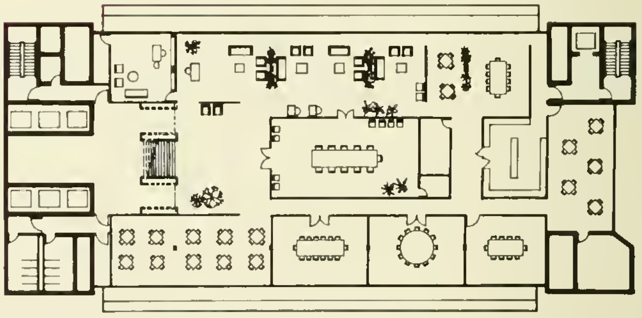
TYPICAL FLOOR PLAN
HIGH RISE ELEVATOR BANK



EXECUTIVE FLOOR
34th FLOOR



TYPICAL FLOOR PLAN
LOW RISE ELEVATOR BANK



BOARD ROOM / EXECUTIVE DINING LEVEL
33rd FLOOR

TOWER FLOOR PLANS

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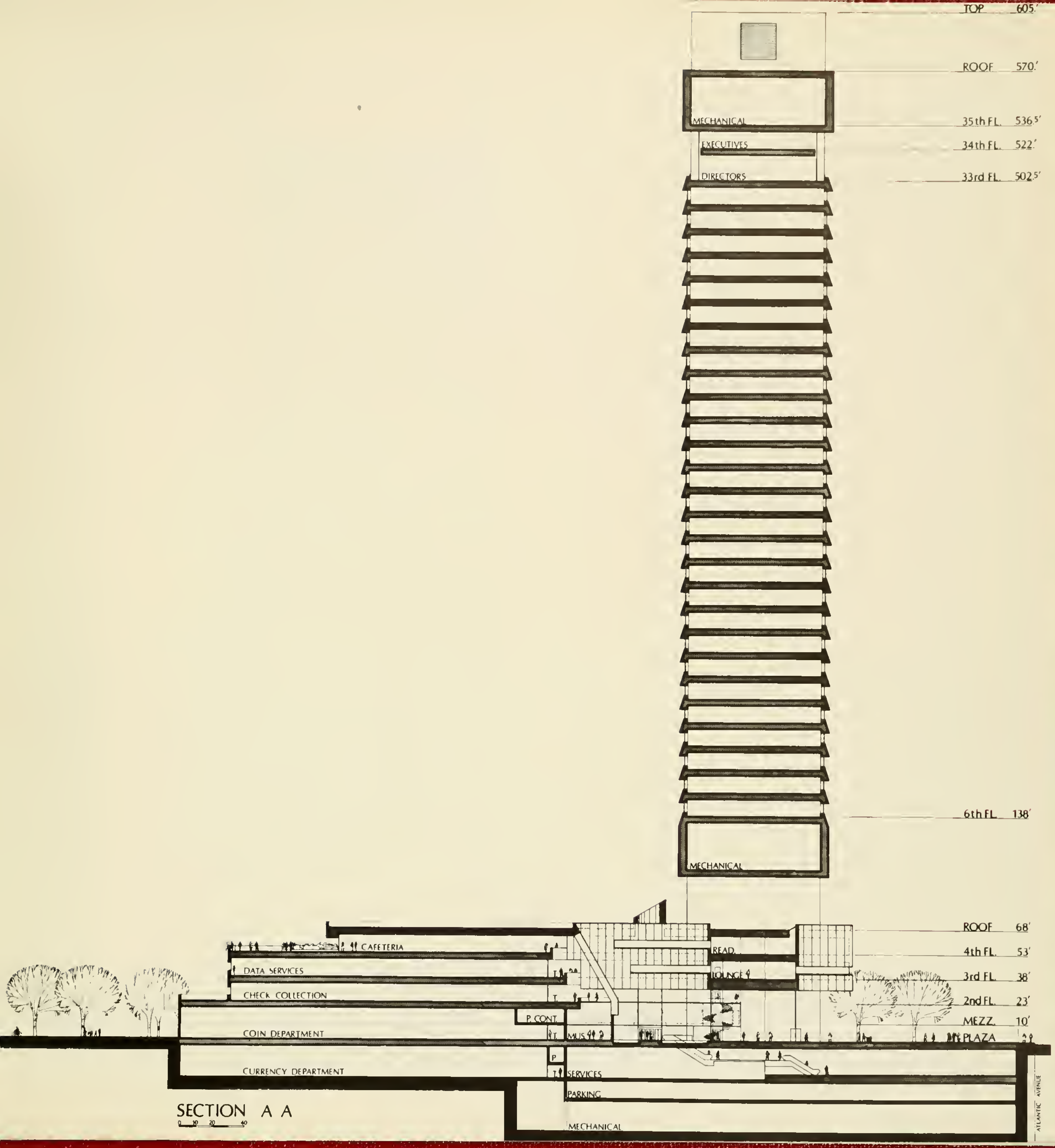
TOP 605.'
ROOF 570.'
MECHANICAL
35th FL. 536.5'
EXECUTIVES
34th FL. 522'
DIRECTORS
33rd FL. 502.5'
6th FL. 138'
MECHANICAL
ROOF 68'
CAFETERIA
READ.
4th FL. 53'
DATA SERVICES
LOUNGE
3rd FL. 38'
CHECK COLLECTION
T.
2nd FL. 23'
P. CONT.
MEZZ. 10'
COIN DEPARTMENT
T.
MUS.
PLAZA
P
CURRENCY DEPARTMENT
T
SERVICES
PARKING
MECHANICAL
ATLANTIC AVENUE
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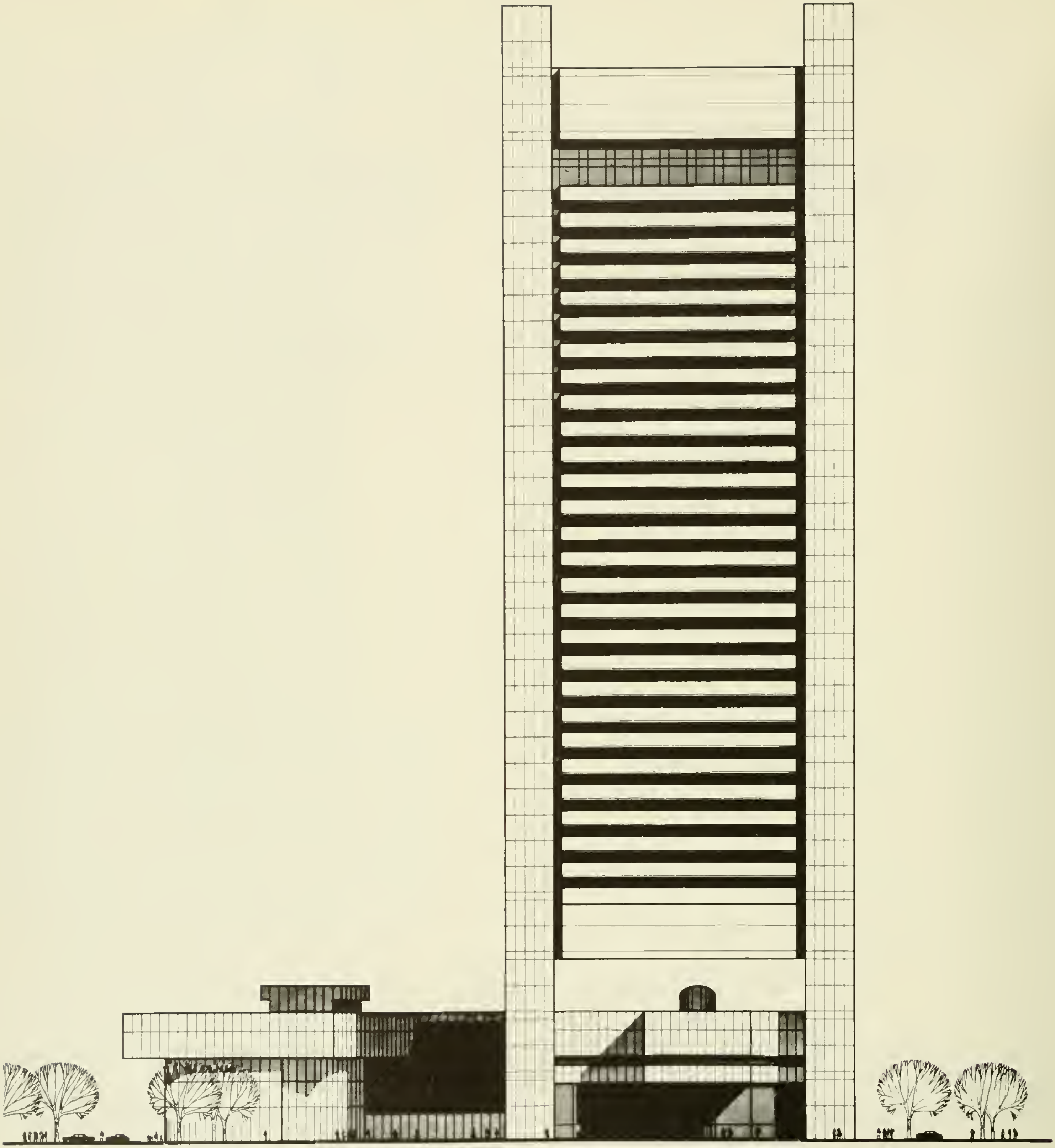
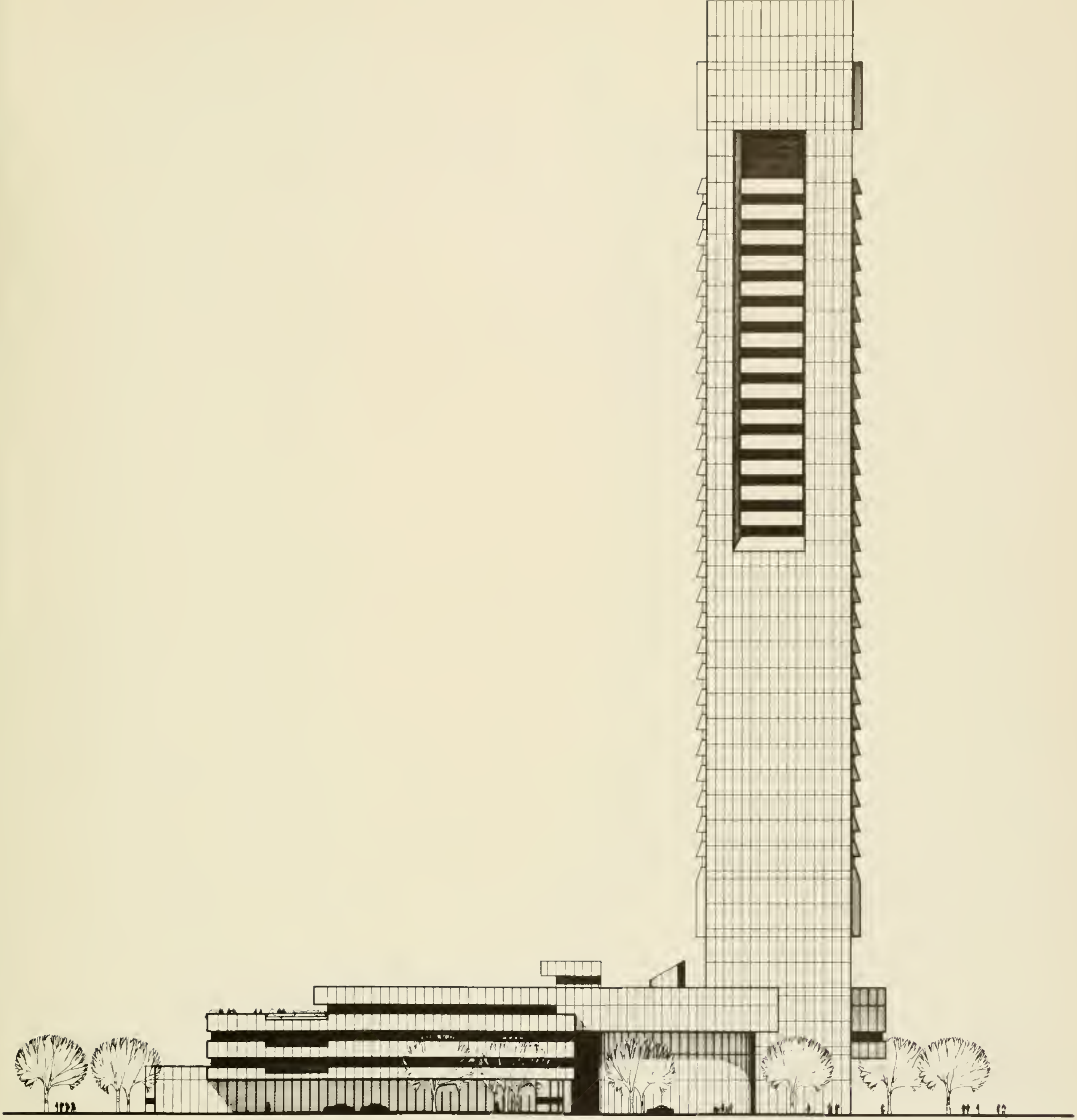
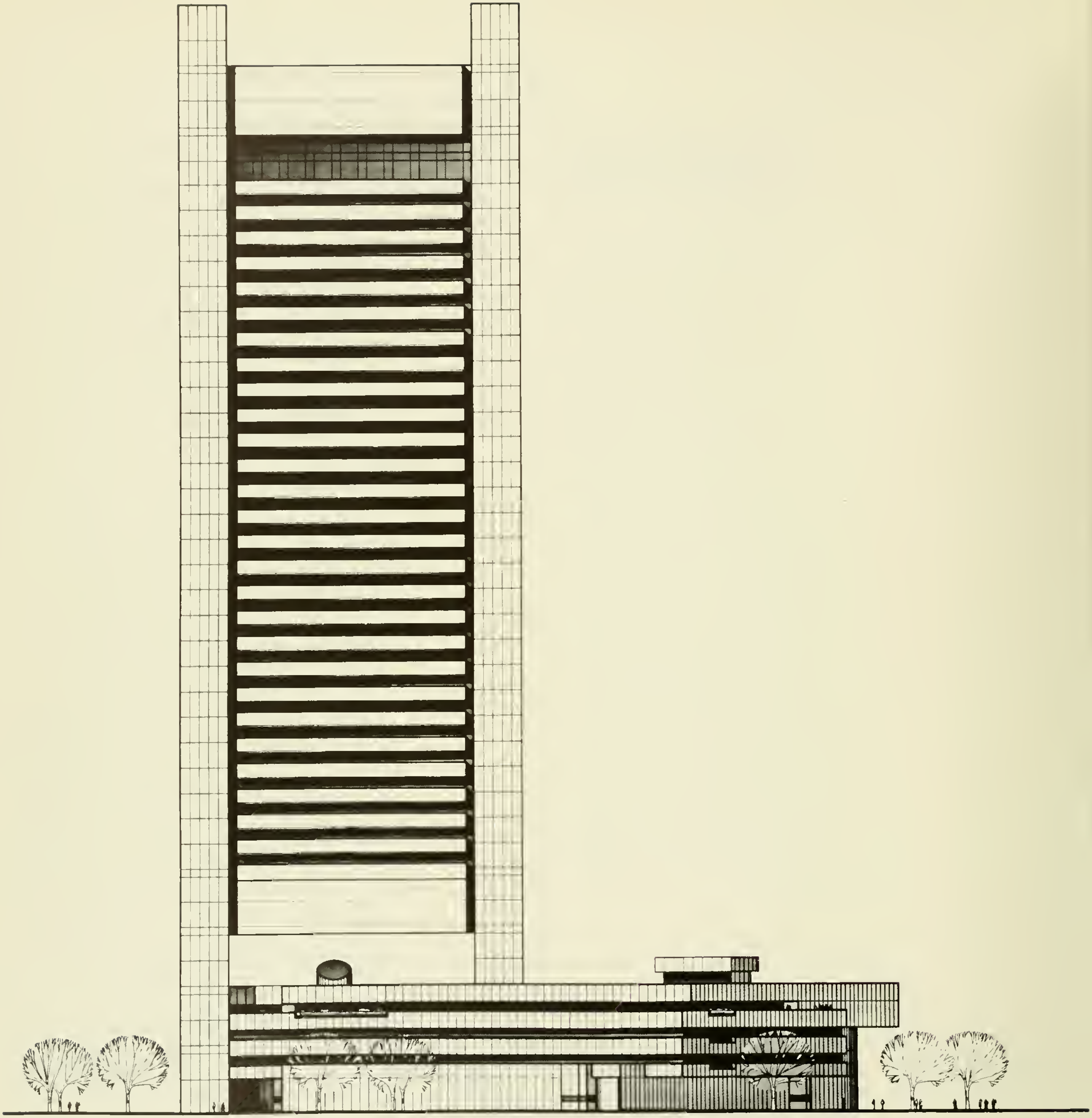
SECTION A A



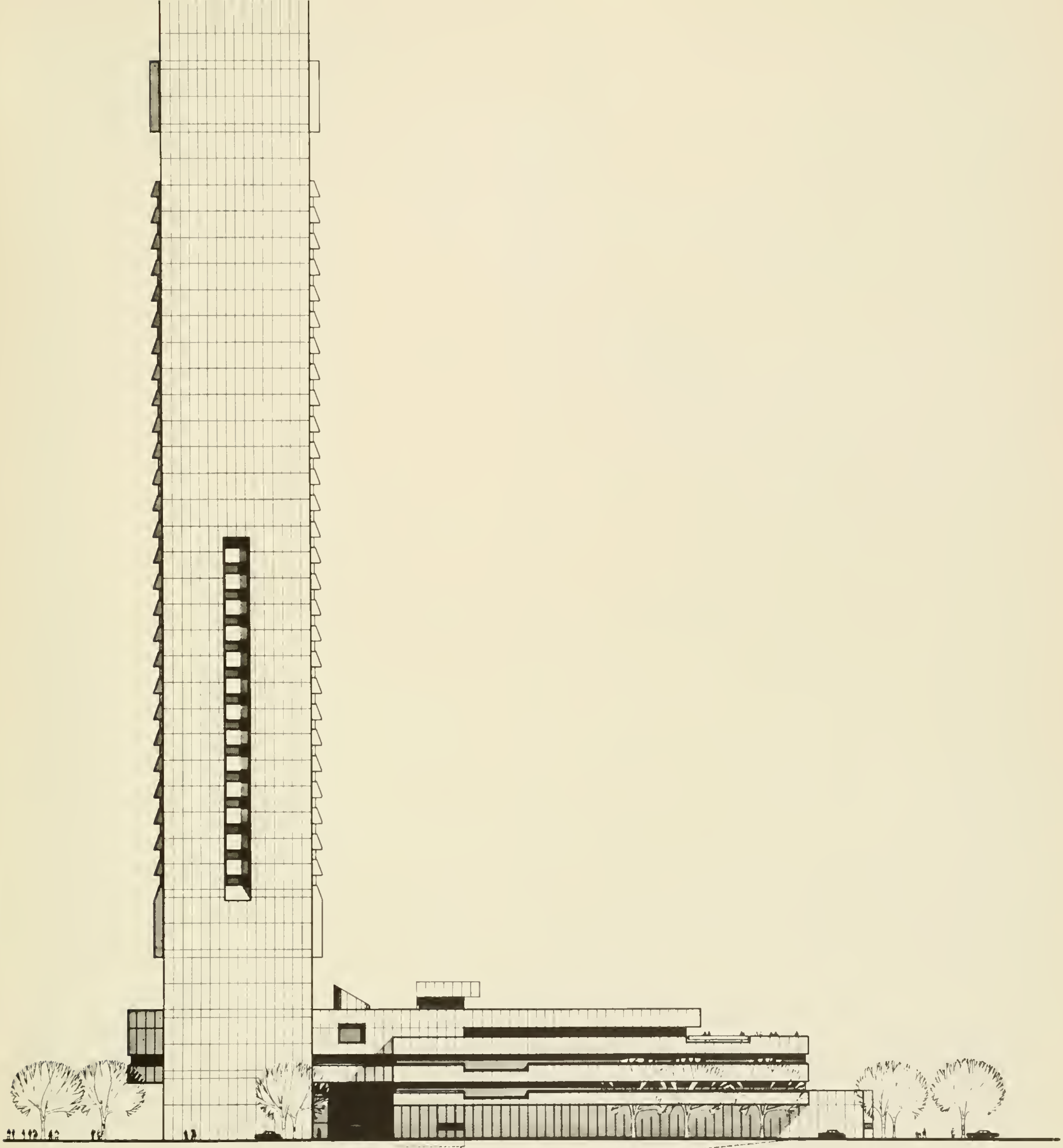
NORTH ELEVATION



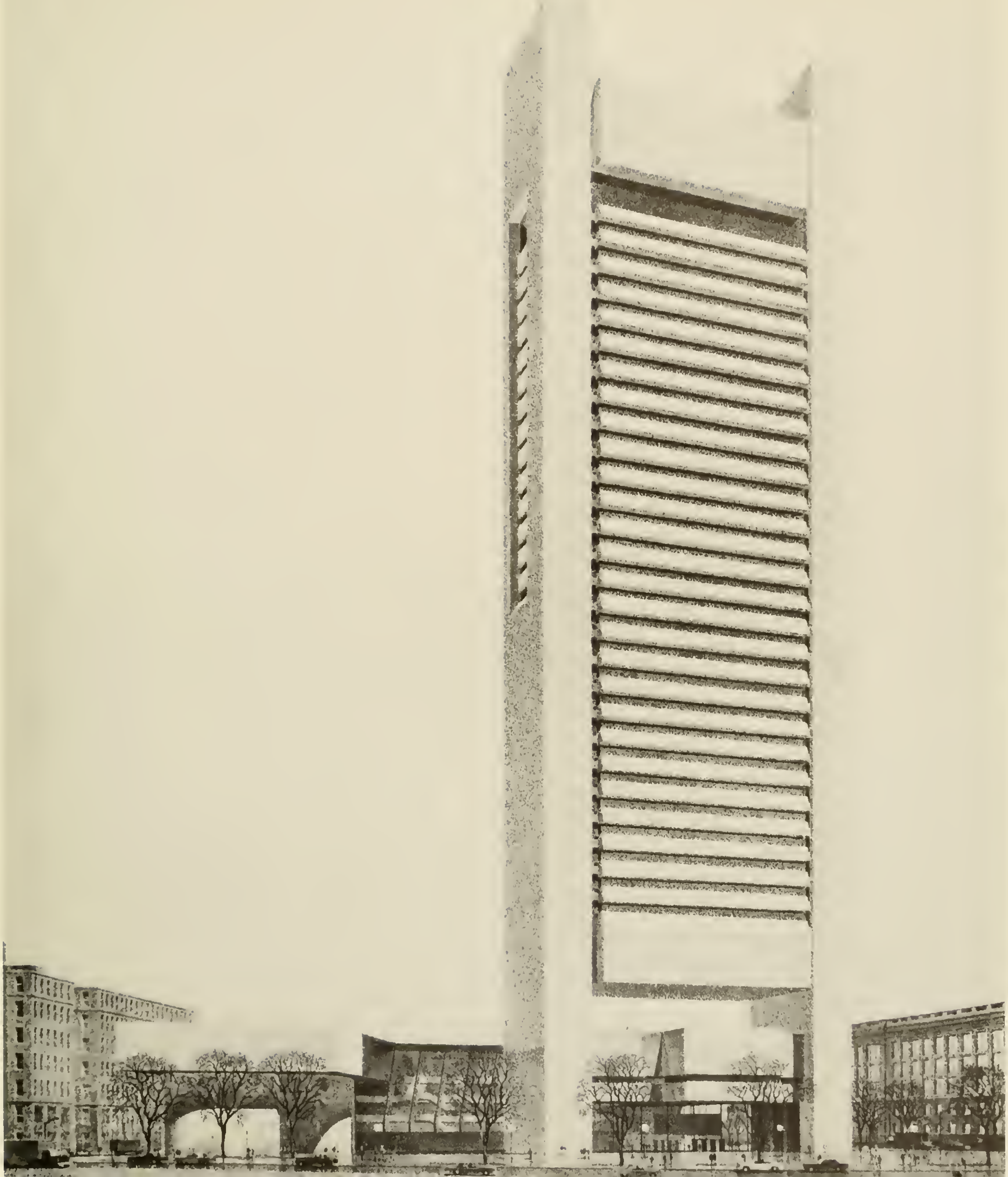
EAST ELEVATION



SOUTH ELEVATION



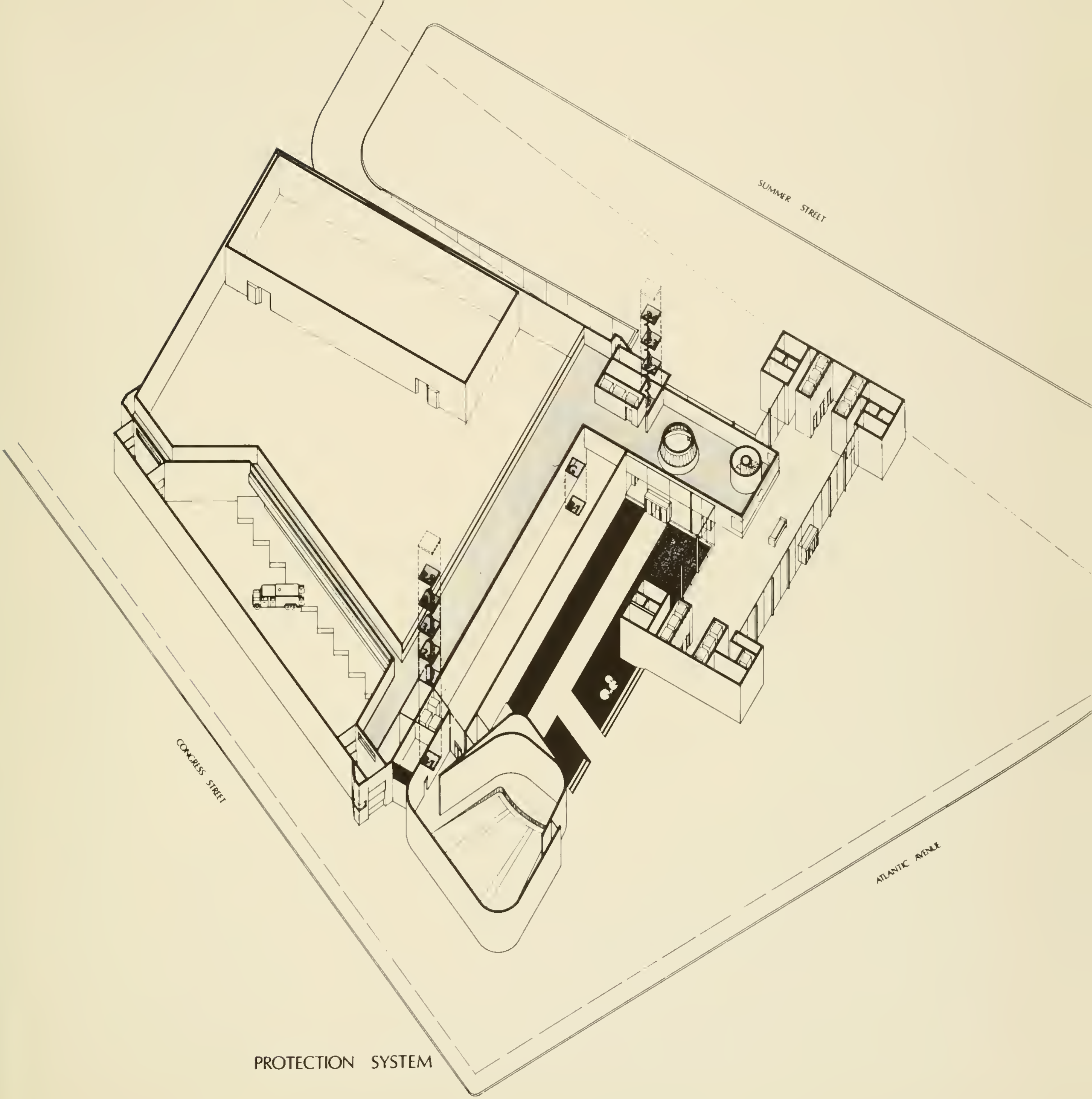
WEST ELEVATION



PROTECTION SYSTEM

PROTECTION SYSTEM

Security Control for both the coin and currency floors is placed at the mezzanine level providing overall protection of the secure dock. The mezzanine extends over and above the general lobby to allow a "field of view" for security surveillance. Extending above the staff control entrance, it also permits observation of pedestrian traffic entering and leaving the building. To allow for easy movement throughout the entire Security Block, a separate set of stairs extends through the floors, allowing free movement of the guards. Because of the prime importance of the control center, it is strategically located at the mezzanine level where it can be effectively protected.



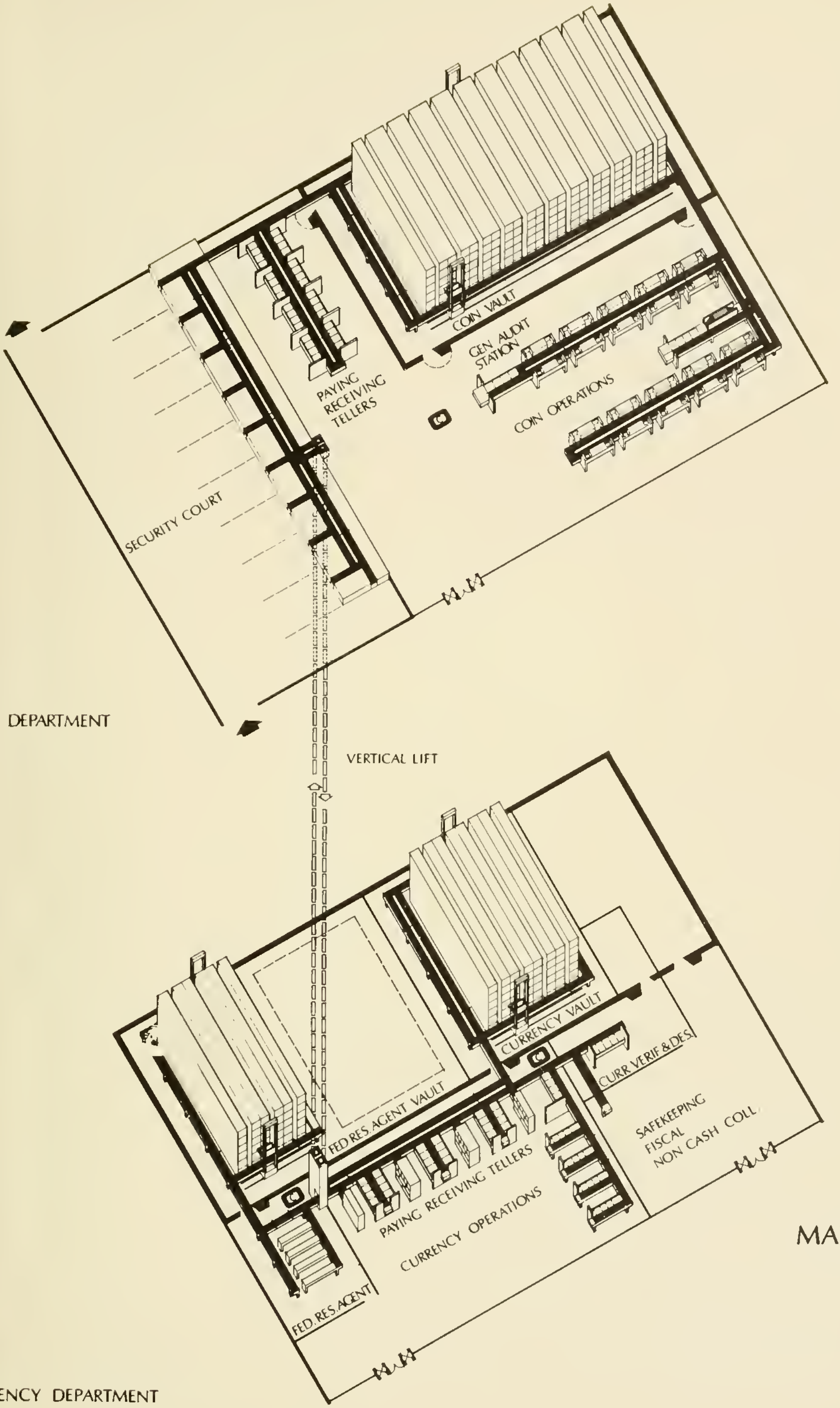
PROTECTION SYSTEM

MATERIALS HANDLING SYSTEM

MATERIALS HANDLING SYSTEM

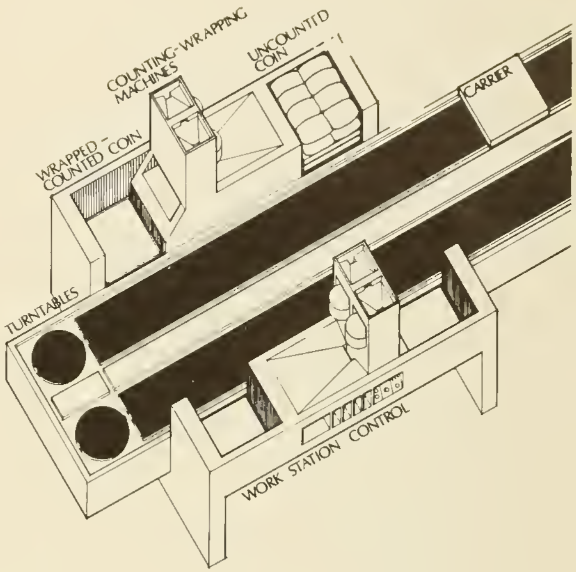
All shipments to member banks pass through the Coin and Currency Departments and the related Security Court. It is the Architect's objective to devise an integrated horizontal and vertical system of maximum security and efficiency covering all phases of handling currency.

Further development of the plans will indicate a system of coin and currency handling for improved working conditions and will eliminate the need for staff to travel between departments. During periodic auditing, materials will be removed from vaults without interference to normal working procedures. The new system will also facilitate the maintenance of inventories and historical records for all money transactions.



COIN DEPARTMENT

CURRENCY DEPARTMENT



WORK STATION - COIN OPERATIONS

MATERIALS HANDLING SYSTEM

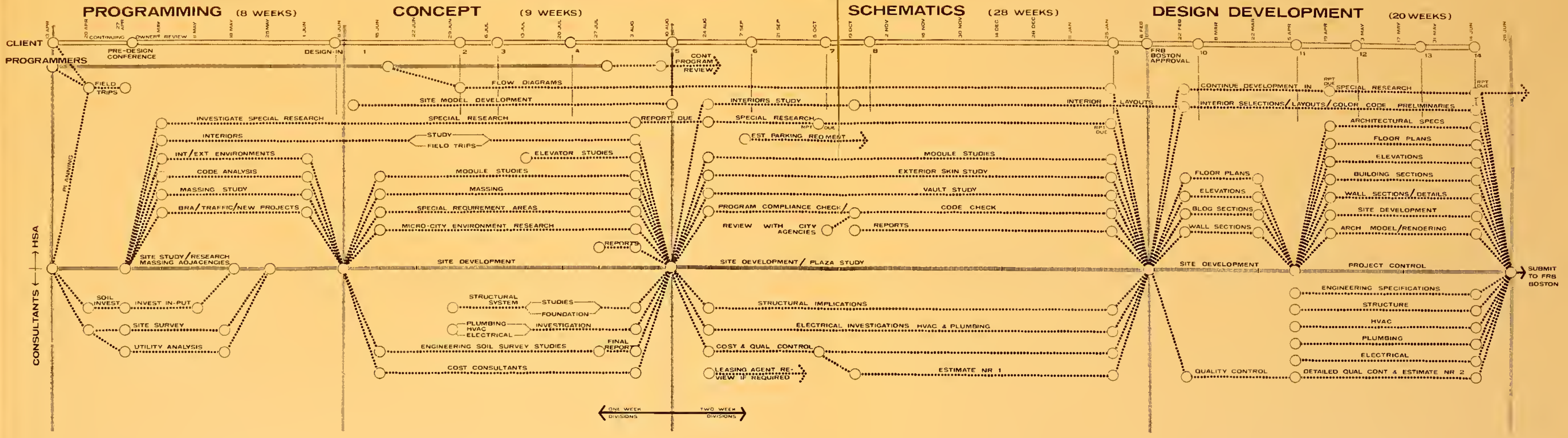
PLANNING SCHEDULE

PLANNING SCHEDULE

This network Schedule serves as a guide for the Bank, the Architect and the consultants in the four planning phases of this project: Programming, Concept, Schematics and Design Development. This report marks the conclusion of the Schematic Phase with priorities and long-range goals established.

FEDERAL RESERVE BANK SCHEDULE

HUGH STUBBINS AND ASSOCIATES. ARCHITECTS



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